

Rev. Jessie Jackson visits South Bay

Sheila Johnson (lower left) and Laura Shawnee (upper right) of the Communication and Education offices (Code DX) at Ames met with Jessie Jackson recently to convey the message of the Center's outreach, education and diversity efforts. The event was held May 1 at the Mexican Heritage Plaza in San Jose.



Astrobiology Institute honored

Dr. George W. Wetherill, a member of NASA's Astrobiology Institute and a research scientist at the Carnegie Institution of Washington, D.C., will receive the National Academy of Sciences' J. Lawrence Smith medal on May 1.

The award, which is presented every three years for "recent original and meritorious investigations" of meteorites, is being given to Wetherill for his contributions to radiometric dating of events in the history of the Earth and meteorites, and understanding the formation and orbital dynam-

ics of bodies in the solar system.

"We are extremely pleased and honored that our colleague and collaborator at the Institute received this important award," said NASA Astrobiology Institute (NAI) Director Dr. Baruch Blumberg, a 1976 Nobel Laureate.

The Carnegie Institution is one of 11 members of the NAI. Formed in 1997 to foster development of a community of astrobiologists based on peer-reviewed investigator-initiated research and to stimu-

continued on page 4

Ames declares war on disease

Ames scientists are providing new insights from space that will permit health officials to predict outbreaks of deadly water-borne cholera, a bacterial infection of the small intestine that can be fatal to humans.

The researchers are using satellites to track blooms of tiny floating plant and animal plankton that carry cholera bacteria via data on ocean temperatures, sea height and other climate variables. The work is described in a recent paper co-authored by University of Maryland Biotechnology Institute (UMBI) and Ames researchers that appeared in the Proceedings of the National Academy of Sciences.

"These experiments fulfill our hypothesis that cholera is associated with environmental conditions," said Dr. Rita Colwell, founder and former president of UMBI, and now Director of the National Science Foundation. She is presently on leave of absence from the University of Maryland, and is co-author of the cholera-tracking project paper.

The authors found that rising sea temperatures and ocean height near the coast of Bangladesh in the Bay of Bengal from 1992 to 1995 often preceded sudden growth, or "blooms" of plankton and outbreaks of cholera.

Similar application of risk analysis developed by NASA using satellite data has also been used in the study of diseases such as malaria, Lyme disease and Rift Valley fever.

"When such a model for Bangladesh is extended to the global scale, it may serve as an early warning system, enabling effective deployment of resources to minimize or prevent cholera epidemics in cholera-endemic regions," according to Brad Lobitz, principal author of the paper and a contract scientist at Ames. The scientists corre-

continued on back page

**Ames ISO Audit
set for week of
May 22**

see story page 6

Awards & Events

NASA presents highest honors for quality

Commitment to innovative management, quality and customer service has earned four U.S. companies the George M. Low Award, NASA's highest honor for quality and technical performance.

NASA Administrator Daniel S. Goldin recently presented the nation's oldest award for organizational quality at the 15th Annual NASA Continual Improvement and Reinvention Conference on Quality Management in Alexandria, VA.

"Each of these companies embodies the importance of continuous, quality, customer service and innovative management. Their commitment to quality and performance has been a great asset to NASA and the nation's industries," said Goldin.

Advanced Technologies Inc., Newport News, VA, received the award for small-business product, and Jackson and Tull, Aerospace Engineering Division, Seabrook, MD, received the Low award for small-

business service. Computer Sciences Corporation, NASA Programs Division, Lanham-Seabrook, MD, was this year's winner in the large-business service category, and the Boeing Company, Delta II Launch Division, Huntington Beach, CA, took the award for large-business products.

Goldin also presented the prestigious 1999 QASAR (Quality and Safety Achievement Recognition) award to four individuals for their significant improvements to products or services for NASA.

The award recognizes, in addition to NASA employees, personnel from other Government agencies, prime contractors and subcontractors who have made significant quality improvements to products, programs, processes and management activities.

David B. King, Chief, Safety, Health, and Medical Service Office at Ames, received the QASAR award for most significant safety

or mission assurance (SMA) contribution within the SMA organization. Greg S. Breznik, Electrical Systems Division, NASA Kennedy Space Center, FL, received the award for most significant safety or quality improvement, service improvement, or initiative from a NASA employee external to the SMA organization. Steven Cronk, Chief, Air Force Flight Test Center Range Safety Office, NASA Dryden Flight Research Center, Edwards, CA, took the award in the Government, but non-NASA, category, and Christopher S. Strong, AverStar, Inc., Burlington, MA, received the honor for a NASA prime or subcontractor employee.

More information on the awards can be found on the Internet at: <http://www.hq.nasa.gov/office/codeq/award.htm>

Heffernan named NASA Chief of Staff

Edward J. Heffernan has been named Chief of Staff at NASA Headquarters by Administrator Daniel S. Goldin.

"Ed Heffernan brings a wealth of policy and legislative experience to this important role," Goldin said. "He has been a key advisor and is uniquely suited to this new challenge."

As Chief of Staff, Heffernan will continue in his role as head of the Agency's legislative affairs effort and will also coordinate all staff activities in the immediate office of the Administrator.

Heffernan joined NASA in April 1994 as a legislative policy specialist for the Space Station information center. He also served as Senior Advisor for Intergovernmental Affairs in the Office of Policy and Plans, before becoming White House liaison and later, Associate Administrator for Legislative Affairs. Prior to arriving at NASA, he was a consultant in Washington, DC. From 1987 to 1992, he served as a legislative assistant to U.S. Congressman Richard J. Durbin (D-IL).

Jelly bean contest winner

Bob Mohlenhoff, Code JT, Raytheon STX Corp., is awarded his prize, a large jar of jelly beans (not the dog), for winning the recent Libraries' Jelly Bean contest at the Ames Café.

Bob guessed there were 629 jelly beans in the jar and the actual number was 628! Cathy Andrejak, Quantum Support Services librarian at the Ames Technical Library, made the presentation.



photo by Marie Schneider

Embry-Riddle offers classes at Ames for summer 2000

Embry-Riddle Aeronautical University will be offering the following classes for the period of May 22 to July 20:

- Undergraduate classes:
 - Monday: BA 320 Business Information Systems
 - Tuesday: PS 102 Explorations in Physics
 - Wednesday: BA 436 Strategic Management
 - Thursday: EC 210 Microeconomics

- Graduate class:
 - Monday: BA 523 Advanced Aviation Economics
- All classes will meet in Building 48, at Moffett Field/Ames.

Call to register at (408) 298-7380. You can also register via email at: south_bay_center@cts.db.erau.edu

Ames History book unveiling

The Ames history book will be on display and distributed at a book dedication ceremony now scheduled for July 11 in the main auditorium of Bldg. N201, at 2 p.m.

Ames staff will also be able to view the Hall of Fame and history video produced for the 60th anniversary at the ceremony. Refreshments will be served after the event. Each attendee will receive a copy of the book.

News from Ames & Around the Agency

Center Briefs

Suspected protoplanet may really be a distant star

Follow-up observations of an unusual object initially suspected to be the first directly detected planet outside our solar system have shown that the object is too hot to be a planet. Astronomers now believe it is more likely that the strange object is a background star whose light has been dimmed and reddened by interstellar dust.

NASA's Hubble Space Telescope photographed the mysterious object, called TMR-1C, in 1997. Because of its potential importance and the compelling nature of the image, NASA also released the picture to the public with the caution that future observations would be critical in verifying whether or not this object actually is a planet.

New Web site highlights global positioning system benefits

In low-lying Bangladesh, researchers are using a constellation of satellites known as the Global Positioning System (GPS) to help residents mitigate the effects of flood damage during the monsoon season.

Using survey systems that incorporate GPS measurements, researchers developed models of the riverbeds and the water discharged into the waterways. These models will be used to develop plans to alleviate damage caused by flooding in the Asian country.

From aiding the visually impaired in France to improving the efficiency and safety of taxicab service in Australia, the Global Positioning System has the ability to touch our everyday lives. Now, NASA Stennis Space Center and its partners have developed a new Web site devoted to sharing the practical uses of GPS technology, called the GPS Application Exchange.

Chandra shows new way to measure cosmic distances

Using Marshall Space Flight Center's Chandra X-ray Observatory, a team of scientists has attacked one of astronomy's oldest and thorniest problems, determining the distance to a cosmic object. The scientists measured the distance to an X-ray source by observing the delay and smearing (filtering) out of X-ray signals traversing 30,000 light years of interstellar gas and dust.

Chandra "opened a new world," said Peter Predehl of the Max-Planck Institute, Garching, Germany, the lead author on a report to be published in the European journal *Astronomy and Astrophysics*. One of the most crucial pieces of information needed in astronomy is the distance to the stars and galaxies. This information also is among the most difficult to obtain because, with rare exceptions, astronomers cannot measure distance directly and must use a variety of ingenious but uncertain techniques.

NASA "lessons-learned" information system can prevent costly mistakes

A tool for sharing information on problem identification and mishap prevention is available to all NASA employees.

The purpose of the NASA Lessons-Learned Information System (LLIS) is to benefit from the experience of others by using the lessons-learned data from almost forty years in the aeronautics and space business. Both government and industry have long recognized the need to document and apply the knowledge gained from past experience to current and future projects in order to avoid the repetition of past failures and mishaps.

As previously mentioned in NASA Administrator Dan Goldin's recent message on March 13 regarding lessons learned, there have been a number of recent incidents where a mishap investigation board identified the need for improved technical review as a common deficiency. For example, in 1966, the mishap investigation board for the DC-XA Clipper Graham inci-

dent identified the need for rigorous technical program reviews and improved independent verification of the program/project management process. Two years later, the mishap investigation board report for the Lewis spacecraft mission also emphasized the need for an improved technical review process. Several months ago, the mishap investigation team for the Mars Climate Orbiter, in their Phase I report, identified the need for improved independent technical reviews on mission-critical components.

All of the extensive work documented in the NASA LLIS is meaningless if we fail to learn from and incorporate these experiences into our ongoing and future programs, projects, and operations. The lessons learned from our past are vitally important sources of information for risk management, problem identification, and mishap prevention provided everyone at NASA shares this knowledge. Although NPG 7120.5A requires all programs and projects

continued on page 6

Ames hosts Japanese delegation



Japanese Minister of Education, Science, Sports and Culture, Mr. Hirofumi Nakasone, poses with Deputy Center Director William Berry after touring the Vertical Motion Simulator.



The Japanese delegation exchange mementos of their visit with the Ames Deputy Center Director. Mr. Berry presented the visitors with NASA pins and a replica of the Carl Sagan plaque flown on Pioneer 10.

photos by Astrid Terlep

Activities & Events

"Take Your Daughters to Work" day at Ames is huge success!



photo by Astrid Terlep

Ames parents with their children at the opening ceremony in Building 3 of "Take Your Daughter to Work" day on April 27.

What a success! Parents at Ames showed the importance they felt about their children's life, education, future and experience as they poured into Building 3 with their kids at 9 a.m. on April 27 for "Take your daughter to work" day. Over 120 adults and children, representing over 25 codes and departments from NASA and Moffett Field attended.

This year's theme "Free to Be You and Me" was a one-day event that was designed to encourage daughters (and sons) between the ages of 8 to 17 years, to stay focused on their futures during adolescence. This day of sharing with children, was designed to furnish them with new insight about the careers they choose and encourage them to visualize their futures.

Nancy Bingham, Associate Director for Systems Management and Planning, did just that, as she inspired the young and old alike to continue with their interests in math and science by sharing with the audience many of the current programs at Ames and other NASA centers.

Four year old, Chelsea Terlep, daughter of Astrid Terlep, understood the importance that this day makes possible for daughters and all children when she said "Mom, today is the luckiest day for girls."

This year's Ames event was sponsored by the Equal Opportunity Programs Office and the Ames Advisory Groups and was a day dedicated to girls' ideas, spirit and dreams.

BY DAWN EVANS



photo by Tom Trower

Laura Lewis, public affairs specialist, Code DXC, with her daughter, Morgan, age 6.



photo by Astrid Terlep

Chris Murphy of Ames assists his daughter, Kelly, at the computer. She's creating her own aircraft, using the aircraft-builder program at the Ames Visitor Center.

Astrobiology Institute member honored

continued from front page

late interdisciplinary collaboration using information technology tools, the NAI is located at Ames. Ames is NASA's lead center for Astrobiology, the study of the origin, evolution, distribution and destiny of life in the universe.

While working at the Carnegie Institution during the 1950s, Wetherill was a member of a small group of scientists who



made major advancements in techniques that permitted determination of the ages of ordinary igneous and metamorphic rocks. Later at UCLA, he applied these techniques to show that all the major classes of the most common type of meteorite had the same age as the Earth -- 4,500 million years.

In 1975, Wetherill returned to the Carnegie Institution of Washington as director of the Department of Terrestrial Magnetism. There, he continued successful theoretical studies of the orbital evolution of asteroids and meteorites and also started investigations of the formation and evolution of our solar system.

The results of these theoretical approaches included, among other things, the likely location of "habitable zones" in other planetary systems, and the important role that Jupiter may have played in the development of advanced life on Earth. His work showed that the gas giant's gravitational field may have protected Earth from being bombarded by a great number of very large comets.

Established by Sarah Julia Smith in memory of her husband, J. Lawrence Smith, the National Academy of Science's medal has been presented since 1988.

The Carnegie Institution of Washington is a private, nonprofit organization with five research departments: Terrestrial Magnetism, Plant Biology, Observatories, Embryology and the Geophysical Laboratory.

BY KATHLEEN BURTON

Research & Facilities

SOFIA hangar transformation underway at Ames

Hangar N-211, built in 1946 and home to just about every aircraft with which Ames has been associated since, is entering a vibrant new phase. Soon it will house the largest airborne astronomical observatory in the world, the Stratospheric Observatory for Infrared Astronomy, or SOFIA.

This Ames-based observatory, jointly sponsored by NASA and the German Aerospace Center, or DLR, features an infrared telescope built into a modified Boeing 747SP. Flying at up to 45,000 feet, above 99 percent of the water vapor in the Earth's atmosphere, it will enable scientific observations that are impossible for even the largest and highest of Earth-based telescopes. Science operations are expected to begin at the end of 2002.

SOFIA requires a ground base featuring an aircraft support system in addition to the same kind of science-related infrastructure that typically supports terrestrial telescopes, and N-211 is being reconfigured to meet those needs.

"Once operations begin, the hangar will house over 100 scientists, operations and maintenance team members, and support staff," explains Ames on-site manager Ed Austin, who is with SOFIA's prime contractor, Maryland-based Universities Space Research Association. "When you look at that huge hangar and the large plane inside it, you'll see a place where exciting research is being conducted, a center of knowledge about infrared astronomy."

By co-locating a wide variety of support features into a single location, SOFIA can meet its ambitious flight and data generation rate at a relatively low cost, as is needed to achieve the high productivity being sought for this world-class, highly visible observatory.

Two of the easiest-to-spot hangar modifications include work on a new roof, replacing the original with a polyvinyl chloride (PVC) membrane roof, and a new roll-up tail door, needed to accommodate the 747SP's tall vertical stabilizer. The main hangar doors are approximately 40 feet high, and that height will now increase to about 68 feet at its center with the new tail door.

The previous, smaller tail door, operating on a track, was created to accommo-

date the Constitution, a double-deck, Lockheed-built troop and cargo transport plane housed at Ames from 1949 to 1950.

N-211 will become the SOFIA Science and Mission Operations Center, being built from the ground up inside the hangar. Components include:

Preflight integration facility – This includes a Telescope Assembly Alignment Simulator, featuring simulation hardware for principal investigators to complete mechanical fit checks, optics alignment and

their disposal individual labs to continue working on their instruments in preparation for observing missions. Several of these instruments will be kept in the hangar on a permanent basis and run by the observatory staff for the science community at large.

Data center – Plans are being developed for a sophisticated data archiving system which will eventually make all of the findings from SOFIA observations easily accessible to the science community.

United Airlines, subcontracted to the Universities Space Research Association to handle the plane's maintenance and operations, will build and staff a dedicated SOFIA service capability within N-211 for day-to-day servicing and maintenance of the 747SP. This will complement United's capabilities at the San Francisco and Oakland airports, where major maintenance on SOFIA will be performed periodically.

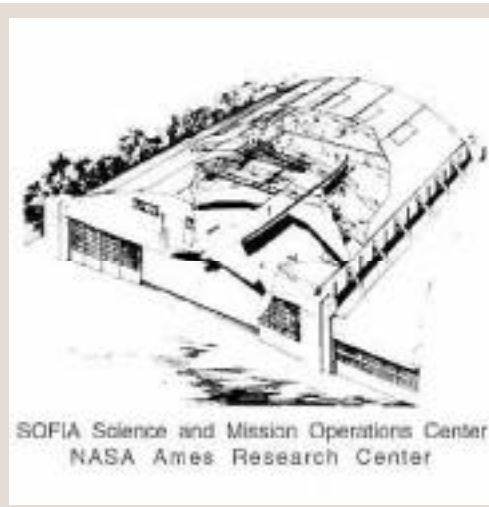
Also under construction is a new elevator for the handicapped and for transporting instruments, along with a second-floor ramp leading from the integration facility right into the plane's main cabin, designed for easy movement of personnel and instruments. In addition, a tank to hold about 11,000 gallons of liquid nitrogen—needed to cool both the telescope and the cavity in which it is housed before each flight—is soon to be installed.

A unique aspect of SOFIA is the integration of Education and Public Outreach (EPO) into the layout of the observatory and hangar. The plane's first-class section is being converted into seating for up to 10 visitors, so that flights can include educators from schools, colleges, universities and science and technology museums. The hangar will feature an EPO area, including a classroom for pre-flight educator training.

Most of the work in N-211 is set for completion in January 2001, with move-in starting next April. The SOFIA plane is scheduled to arrive in the fall of 2002, following current reconfiguration at subcontractor Raytheon's facilities in Waco, Texas, and integration of the telescope in Germany.

Further details about SOFIA are available at <http://sofia.arc.nasa.gov> and at United Airlines' SOFIA site, <http://www.ual-sofia.com>.

BY JOHN G. WATSON



bore sighting, among other functions, prior to mounting their instruments to the SOFIA telescope. Included as well is the two-story System Integration Lab, featuring hardware and software to aid in the functional integration of science instruments, to practice mission scenarios and to simulate flight operations.

Mirror coating facility – One to two times per year, the SOFIA telescope mirrors will be taken out of the plane and placed in this facility for re-coating. Included is a mirror stripping room and a vacuum chamber specially constructed for mirror re-coating.

Science instrument labs – There are 10 initial instruments under development to fly on SOFIA, each being built at a different university or lab in the U.S. and Germany. When principal investigators arrive at the Science and Mission Operations Center with their instruments, they will have at

Events & Guidelines

DNV to audit Center Quality Management System at Ames

During the week of May 22, an outside third party audit team made up of personnel from Det Norske Veritas (DNV) Certification, Inc. will be onsite to assess the effectiveness of the Center Quality Management System. The assessment will begin with an opening meeting between the DNV external audit team and the Ames Management Council. After this meeting, the auditors will visit various organizations to determine the effectiveness of the Center's Quality System in meeting the ISO 9001:1994 requirements.

Auditee(s) should:

- Be available at the appropriate time and location. Nothing can turn an auditor sour faster than getting to an auditee location and finding the auditee not available. Remember, all the while the auditor is auditing he or she is indirectly measuring management and executive management commitment. The auditor is going to take a dim view of the commitment of executive management if employees are not available to be audited at the predetermined time and place.

- Listen carefully to what is being asked. Do not anticipate an auditor's question, you could end up answering the wrong question or providing information you did not intend.

- If you do not understand a question do not answer it. Let the auditor know that you do not understand the question. It is the auditor responsibility to rephrase the question to get the information required. It is not your job to anticipate the auditor's questions.

- Direct all answers to the specific question asked. The best answer to an auditor's question is a "yes" or "no." Auditors will generally ask open-ended questions but if they do not, the preferred answer is yes or no to any question asked.

- Concentrate on answering the questions with concise explanations. Conciseness implies understanding and understanding implies conformance. You need to demonstrate the Ames center mantra "Say it, Do it, Prove it."

- Reference the documentation (procedures, work instructions, forms, external documents, and the master list) from the web sites. The central source of all current documentation should be the Web. Without exception, all Ames employees should be able to use the Web-based document system. You will most likely be asked to demonstrate web usage sometime during the audit, so be prepared to do so.

- Refer questions that pertain to areas outside of your responsibility to the guide or your responsible manager. Never answer a question outside your direct control or process. Refer such questions to the guides that will be shadowing the auditors throughout this assessment process.

- Review and be knowledgeable of all pertinent documentation that applies to your area of responsibility. Nothing gets an audit off to a better start more than an auditee that really knows his or her documentation. Remember the audit is about finding conformance, not non-conformance. Once conformance has been established, it is on to other issues.

- Be able to show to the auditor the objective evidence that is referenced in your documentation. Remember that objective evidence is the name of the game. If there is no evidence, then it did not happen. ISO defines objective evidence as findings that can be substantiated by information which is factual and which can be verified. Remember the auditor has only a limited time to question the auditee and in this time, the auditor has to feel that the auditee truly abides by the documentation. This confidence is developed through the recorded history.

- Make sure all safety issues are addressed. Auditors will note all safety issues, such as gas cylinders not secured properly, electrical outlets over loaded, etc. These are hazards to people and products, and/or services.

- Be courteous and positive during the audit. It does not cost anything and it makes things flow smoothly.

Auditee(s) should not:

- Speak until asked a specific question. It's the auditor's show, let them ask the questions.

- Speak about issues outside of their direct responsibility. Again, the issue here is that, by answering questions about documents or processes that you do not directly control, may get someone else into a problem situation.

- Offer opinions about anything; stick to facts and facts only. Auditors are looking for objective evidence. Opinions have no place in an audit, they only muddy the waters.

BY RICK SERRANO

NASA "lessons-learned" information system can prevent costly mistakes

continued from page 3

to review and apply lessons learned, many programs/projects may not be utilizing this important resource. How can we do a better job of learning from our past to ensure higher rates of success? The following are some examples of actions we can take now to improve the success of programs, projects and operations:

NASA Program/Project Managers:

- Review and apply significant lessons learned from the NASA LLIS prior to major milestone throughout a program/project life cycle as a key element of problem identification, risk management, and mishap prevention.

- Document and submit lessons learned throughout a program/project life cycle.

Scientists, engineers and administrative staff.

- Contribute your lessons learned to the NASA LLIS.

- Look for opportunities to share your wealth of knowledge with your program, project and colleagues.

By using the documented knowledge from past experience, we can ensure the success of our future.

For more detailed information about the NASA Lessons Learned Information System, visit the Web site at <http://llis.nasa.gov>, or contact the Ames Safety and Mission Assurance Office at ext. 4-5301, or the author, LLIS Steering Committee representative, at ext. 4-1012.

BY TONY BRICENO

Reminder

N.A.C.A. Alumni Reunion IX will be held on September 14 to 17, 2000 in Lancaster, CA with support from the Dryden Flight Research Center. Anyone who worked for or with the National Advisory Committee for Aeronautics in its years between 1917 and 1958 is invited to attend the Reunion.

For further information, write to: NACA Reunion IX, P.O. Box 1589, Lancaster, CA, 93539-1589 or call Betty Love at (661) 265-8049 or Pat Keener at (805) 995-3430.

Calendar & Classifieds

Event Calendar

Model HO/HOn3 Railroad Train Club at Moffett
Field invites train buffs to visit & join the club in Bldg. 126, across from the south end of Hangar One. Work nights are usually on Friday nights from 7:30 p.m. to 9:30 p.m. Play time is Sunday from 2 p.m. to 4 p.m. For more info, call John Donovan at (408) 735-4954 (W) or (408) 281-2899 (H).

Jetstream Toastmasters, Mondays, 12 noon to 1 p.m., N-269/Rm. 179. Guests welcome. POC: Samson Cheung at ext. 4-2875 or Lich Tran at ext. 4-5997.

Ames Ballroom Dance Club, Ames Ballroom Dance Club. Tuesdays: Rumba 4/4, 4/11, 4/18, Salsa 4/25, 5/2, 5/9, Samba 5/16, 5/23, 5/30, 6/6. 3 levels of classes, from Beg. to Int., 5:15 - 6:45pm. Moffett Training and Conference Center, Bldg. 3/Showroom. Women dancers are especially encouraged to join. POC: Helen Hwang, hhwang@dm1.arc.nasa.gov.

Ames Child Care Center Board of Directors Mtg.
Every other Thursday (check Web site for meeting dates), 12 noon to 2 p.m., N269, Rm. 201. POC: David Kormeyer, ext. 4-3114. Web site: <http://acc.arc.nasa.gov>

NFFE Local 997 Union General Mtg., May 17, noon to 1 p.m., Bldg. 19/Rm. 2017. Guests welcome. POC: Marianne Mosher at ext. 4-4055.

Ames Multicultural Leadership Council Mtg., May 17, 11:30 a.m. to 1 p.m., Galileo Rm/Ames Café. POC: Sheila Johnson, ext. 4-5054 or David Morse, ext. 4-4724.

Ames Amateur Radio Club, May 18, 12 noon, N-260/Conf. Rm. POC: Mike Herrick, K6EAA at ext. 4-5477.

Ames Asian American Pacific Islander Advisory Group Mtg., May 18, 11:30 a.m. to 1 p.m., N-237/Rm. 101. POC: Daryl Wong, ext. 4-6889 or Margaret Salas, ext. 4-6755.

Native American Advisory Committee Mtg., May 23, 12 noon to 1 p.m., Ames Café. POC: Mike Liu at ext. 4-1132.

Environmental, Health and Safety Monthly Information Forum, Jun 1, 8:30 a.m. to 9:30 a.m., Bldg. 19/Rm 1078. POC: Linda Vrabel at ext. 4-0924.

Hispanic Advisory Committee for Employees, Jun 1, 11:45 a.m. to 12:30 p.m., N-241/Rm 237. POC: Mary R. Valdez, at ext. 4-5819.

Ames African American Advisory Group Mtg., Jun 1, 11:30 a.m. to 12:30 p.m. POC: Robert Finnie at ext. 4-5230. Contact Robert for meeting place.

Nat'l Association of Retired Federal Employees, (NARFE), San Jose Chapter #50, Mtg., Jun 2, at Harry's Hofbrau, 390 Saratoga Av., S.J., Prog. and bus. mtg. follow lunch at 11 a.m. POC: Mr. Rod Perry (650) 967-9418 or NARFE 1-800-627-3394.

Ames Contractor Council Mtg., Jun 7, 11 a.m., N-200 Comm. Rm. POC: David Lawrence at ext. 4-6434.

Ames Sailing Club Mtg., Jun 8, 11:30 a.m. to 1 p.m., N-262/Rm. 100. POC: Stan Phillips, ext. 4-3530.

Professional Administrative Council (PAC) Mtg., Jun 8, 10:30-11:30 a.m., Bldg 233A, Rm. 172. POC: Leslie Jacob, ext. 4-5059.

Ames Classifieds

Ads for the next issue should be sent to astrogram@mail.arc.nasa.gov by the Monday following publication of the present issue and must be resubmitted for each issue. Ads must involve personal needs or items (no commercial/third-party ads) and will run on space-available basis only. First-time ads are given priority. Ads must include home phone numbers. Ames extensions and email addresses will be accepted for carpool and lost & found ads only. Due to the volume of material received, we are unable to verify the accuracy of the statements made in the ads.

Housing

For sale by owner: \$549K, small horse ranch near Watsonville. Royal oaks, California/scenic area. 3 acres w/ trees & lots of open space. 3 bd/2 ba home/family rm w/ fireplace. Front/rear decks w/hot tub rm. 2 car garage w/laundry rm & storage rm. Barn, tack rm, corrals, workshop/electricity. Property fenced & outside lighting. Ron (408) 736-2150. Lv msg or call (831) 722-0130.

Housing needed: Researcher from Brazil working at Ames for a year needs housing. Apartment, townhouse, or house with 2+ bd for family of 4, May 1, 2000 through April 30, 2001. Call (650) 960-9787.

Housing needed: College professor visiting Ames for summer research needs temporary lodging. Apartment, townhouse, or house w/2+ bd for family of 3, June 1 to approx. August 20. Willing to pay rent while house-sitting, will happily take care of plants, pets, yard. Call (650) 903-0925.

Housing needed: Female scientist visiting Ames for summer research needs temporary lodging. Furnished room or apartment from May 15 to the end of August. Phone: +49 172 9950132 or email: petra.rettberg@dlr.de

Roommate wanted to share a spacious, 2 bd/1ba. apt. in Sunnyvale. Male, N/S professional pref. Full kitchen privileges, two phone lines available, only 4 mi. from Ames. \$600/mo + 1/2 utils. Rob (650) 691-9961.

Room for rent in Sunnyvale. Available 7/1/00, possibly earlier. 2 bdrm/1bath apt. near El Camino off Mary. Shared expenses. Barrie Anne (408) 736-8961.

Rooms for rent: 3 pleasant, sunny, furnished bedrooms for rent in the Campbell/Los Gatos area. Clean, professional, considerate household. Long term or summer assignment. Shared bath or master bedroom. Ready for occupancy. Call (408) 266-7272 and lv msg.

Seeking Housing: Reliable Ames employee needs long term rental. Modern 1 BR townhouse, apartment or cottage. Prefer Menlo Park area/North of Mountain View. David (650) 988-1261.

Transportation

'85 Toyota Corolla, needs work. \$400 or B/O. Call (415) 826-3041.

Camper van, high top, self-contained. 90K mls on '87 Ford Econoline engine. \$15K. Call (415) 826-3041.

'91 Toyota Tercel 2 door, 4 speed manual transmission, A/C, Stereo cassette with four speakers, one owner, 40,000 original miles, all service records, excellent condition. \$3,500. Vic (408) 532-1477.

'93 Legend Coupe, champagne colors. Full option, plus CD changer. Excellent condition. Asking \$11,500 or B/O. Cathy (408) 274-7764.

'95 Chevy Blazer, LT, 4X4. Fully loaded roof rack, p.glass, tilt, cc, pl, keyless entry, pw, black leather int., Crimson red/w.drk gray, new tires, battery plus much more. 79K, asking \$14,500. Bob (408) 736-4039.

'97 Jeep Wrangler, 4 cyl., exc. condition, 49K miles, added chrome side bars, fog lights, stereo and alarm. \$14,500 or B/O. Call (408) 371-6739.

'98 Taurus 4-dr sedan, automat, A/C, power windows, alarm/lock, \$13K. Great cond. 16K mls. Larry or Teri, Call (408) 266-2535, piercepack@hotmail.com

Miscellaneous

Zion Lane, San Jose, CA 95132. Annual block garage sale from 8:00 a.m. to 4:00 p.m.

Personal Navigator, Garmin GPS 12, brand new, never used. \$85. Call (650) 493-3916.

49er tickets, sec. 53. Pre-season San Diego 8/5 and Denver 8/25. \$80/pair one game, or \$150/pair both games. Call (510) 656-7654.

Bedroom furniture: dresser, 7 drawer with mirror, Night stand with lamp, Twin bed with headboard, Mattress and box spring set, Mattress cover, One set sheets, Matching comforter, bedskirt and sham with pillow. Like new. \$475 Vic (408) 532-1477.

For sale: glass coffee table, rectangular with black and gold brass base. Excellent condition. \$150 or B/O. Call (408) 732-7080.

Microwave, RCA, basic model, white, 2 settings. Works fine. \$50 or B/O or donate to charity or service org. Call (408) 225-7495.

Doghouse for small to medium sized dog. 28" high, 24" wide, 41" depth from opening. Opening 18" wide. Wood-shingled, gd condition, \$25. Call (408) 225-7495.

Ames radio information

for employees

1700KHz AM radio--information radio announcements for Ames employees during emergencies.

Vacation rental

Lake Tahoe-Squaw Valley twnhouse, 3bd/2ba, view of slopes, close to lifts. Wkend \$470, midwk \$175 night. Includes linens, firewood. Call (650) 968-4155 or email: DBMcKellar@aol.com

Carpool

Looking for carpool partners to share driving/riding from East Bay (Oakland-Hayward area) to Moffett Field. If interested, email me at mzirkle-yoshida@mail.arc.nasa.gov

Lost & Found

Moffett Field Lost and Found may be reached at ext. 4-5416 at any time. Residents and employees at Ames may also use Internet browser at: <http://ccf.arc.nasa.gov/codejp/pages/lostFound.html> to view a list of found property and obtain specific instructions for reporting lost or found property and how to recover found property. Call Moffett Field security police investigations section at ext. 4-1359 or email at: mfine@mail.arc.nasa.gov.

Volunteers needed for research study

Ames is sponsoring a study conducted by the Monell Center to evaluate odors associated with the interior of a human spacecraft. They are seeking a group of individuals to participate in a sensory panel at Ames to evaluate the detectability, intensity and quality of odors that may be present on the interior of manned spacecraft. They need 24 healthy, non-smoking volunteers between the ages of 25 and 55.

Each panelist will be tested in 14 sessions, in addition to an initial screening session. Panelists will provide evaluations once every two days, (7 total), for the first two weeks, from May 31 to June 14. During the third week, June 15 to June 21, each panelist will provide daily evaluations. The total duration for each evaluation session will be approximately 45 minutes.

At the completion of the study, the Monell Chemical Senses Center will pay \$300 for each panelist for their participation in the sensory panel, provided they miss no more than 2 sessions. In addition, a \$200 bonus will be given to volunteers who complete all 15 sessions, bringing the total potential compensation to \$500.

There are no risks from participation in this research. All tests have been reviewed and approved by the Committee for Studies Involving Human Beings of the Institutional Review Board at the University of Pennsylvania as well as the NASA Human Research IRB. Informed consent to participate in the study will be obtained from every participant, using the form that has been approved by both review boards.

If interested in participating, you can phone (800) 628-9981.

Please give the receptionist your name, age, phone number and a time you can be reached. You can also use email: odornose@yahoo.com

Applied Research

Ames scientists declare war on disease

continued from front page

lated years of hospital cholera records from Bangladesh with sea temperature and ocean height data derived from a variety of satellites and surface observations.

Satellites not only can measure water temperature and ocean height, but also can measure colors that indicate plankton and chlorophyll over a large sea area, Lobitz explained. Tracking sea temperatures from ships and by other direct measurements is too expensive to be practical, he added.

Cholera may result in extreme diarrhea, vomiting and loss of water. Victims can die within a day or so unless body fluids are replenished quickly. The seventh cholera pandemic began in 1961 and now affects six continents, according to the author. A pandemic is an epidemic that occurs over a large region.

Sea height is important because tides reach further inland to affect more people who may drink or bathe in brackish water carrying cholera. "Bangladesh is very low and flat, and tidal effects are felt almost half way up into the country," said co-author Louisa Beck of California State University at Monterey Bay and a resident scientist at Ames.

"The 1992-to-1995 study is important because all the remote sensing satellite data are in the public domain," Beck said. "The main point is that we obtained the data at no cost because it is available on the web."

"In most years Bangladesh has two chol-

era outbreaks," Lobitz said. "These are in the spring and fall." The authors discovered that the sea surface temperatures show an annual cycle similar to the cholera-case data.

The effort was a cooperative project between NASA's Office of Life and Microgravity Sciences and Applications and UMBI. The study was also supported by grants from the National Institutes of Health and the Environmental Protection Agency. The other authors include Byron Wood, Ames; Anwar Huq, UMBI; and George Fuchs and A. S. G. Faruque, the International Centre for Diarrhoeal Disease Research, Bangladesh. More information about the cholera-tracking project is on the Internet at: <http://geo.arc.nasa.gov/sge/health/projects/cholera/cholera.html>

The researchers used data from three Earth-observing satellites in the study: a National Oceanographic and Atmospheric Administration weather satellite, the SeaWiFS instrument aboard the SeaStar (OrbView-2) satellite, and the U.S.- French TOPEX/Poseidon oceanography satellite. Data from SeaWiFS and TOPEX/Poseidon are provided through NASA's Office of Earth Sciences, which is dedicated to studying how natural and human-induced changes affect the Earth's global environment.

BY JOHN BLUCK

Astrogram deadlines

All Ames employees are invited to submit articles relating to Ames projects and activities for publication in the *Astrogram*. When submitting stories or ads for publication, submit your material, along with any questions, in MS word by e-mail to: astrogram@mail.arc.nasa.gov on or before the deadline.

Deadline	Publication
Tues, May 16	Mon, May 29
Tues, May 30	Mon, Jun 12
Tues, Jun 13	Mon, Jun 26
Tues, Jun 27	Mon, Jul 10
Tues, Jul 11	Mon, Jul 24
Tues, Jul 25	Mon, Aug 7
Tues, Aug 8	Mon, Aug 21
Tues, Aug 22	Mon, Sep 4

THE AMES *Astrogram*

The Ames ASTROGRAM is an official publication of the Ames Research Center, National Aeronautics and Space Administration.

Managing Editor.....David Morse
Editor.....Astrid Terlep

We can be reached via email at:
astrogram@mail.arc.nasa.gov or by phone
(650) 604-3347



National Aeronautics and
Space Administration

Ames Research Center
Moffett Field, California 94035-1000

Official Business
Penalty for Private Use, \$300



FIRST CLASS MAIL
POSTAGE & FEES PAID
NASA
Permit No. G-27



PLEASE RECYCLE
Printed on recycled and recyclable paper with vegetable-based ink.